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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,694	08/03/2000	Kenneth N. Myers Jr.	FE-00472	9229

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EXAMINER	
STEVENS, THOMAS H	

ART UNIT	PAPER NUMBER
2123	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/631,694	MYERS JR. ET AL.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 May 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-21 were examined.

Section I Response to Applicant's Amendments

Title

2. Applicants are thanked for amending title; objection is withdrawn.

Prior Art

3. Applicants are thanked for addressing this issue; however, the examiner stands behind original objection for figure 6. Objection to figure 1 is withdrawn.

Information Disclosure Statement

4. Examiner acknowledges applicants' response.

Priority

5. Applicants are thanked for addressing this issue. Rejection is withdrawn.

Double Patenting

6. Applicants are thanked for addressing this issue and the apparent errors regarding terminology. However, the rejection stated in the first office action stands.

35 U.S.C. § 112 2nd

7. Applicants are thanked for addressing this issue. First action 112 2nd rejections are withdrawn.

35 U.S.C. § 102 (a,b)

8. Applicants are thanked for addressing this issue. The 102 (a,b) rejections are withdrawn.

35 U.S.C. § 102 (b)

9. Applicants are thanked for addressing this issue. The 102 (b) rejections are withdrawn; however, the examiner has sited new art under 35 U.S.C. § 103 (a).

Section II Rejections

Claim Rejections - 35 USC § 112

10. Regarding claims 7,11,12,16,19 and 21, the word "associative" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 101

11. Claims 1-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 09/666,545.

For example, claim 1(09/631694) claims an inter-enterprise collaborative engineering environment linking multiple systems via a bi-directional link between data bases (pg.32 lines 1-5 and 13). However, claims of (09/666,545) claims a web-centric collaborative engineering environment linking multiple systems together (pg. 2, lines 1-6).

One of ordinary skill in the art at the time of invention would have known that a "web-centric" product has inherent features such as a data base network with vast data bases or a plurality of data bases (broadly speaking: multiple systems), which is bi-directional in nature; concluding that these applications are the same. This is a provisional obviousness-type double patenting.

Claim Rejections - 35 USC § 103

17. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara-H et al. ("Model-based Architecture" (1997)) in view of McQuary ("A Collaborative Engineering Environment for 21st Century Avionics" (1998)).

Hara et al. teaches a Cooperative Environment for Enterprise-Computing (CEE) which consist of an organization, business function/process with concurrent engineering by providing notification on the creation or modification of the output document of a process to the succeeding process (abstract); but doesn't teach an actual application.

McQuay teaches the Collaborative Engineering Environment (CEE) for advanced distributed modeling and simulation and engineering tools in an integrated environment to support technology development (abstract).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use Hara et al. to modify McQuay since it would have been advantageous to implement and use such an abstract network.

Claim 1: A computer implemented collaborative engineering environment (CEE) for providing an inter-enterprise collaborative mechanism for organizations developing and maintaining complex system products, the CEE providing a federated architecture linking multiple systems and applications together to enable collaboration among enterprise members, comprising (Hara: Abstract; and McQuary: abstract): a database defined by an associative information model for providing a persistent understanding of product and program information, assets and tools available in the enterprise (McQuary: pg. 256, right column, bullets 1-3); an information management service providing controlled access to the database for collaboration and (Hara: pg. 183, left column, 1st and 2nd paragraphs with figures 1 and 2); an information transformation service receiving, sending and formatting data and acting as a bi-directional link between the database and members of the enterprise, wherein access to the data in the database is managed by the information management service, and wherein the information transformation service provides information structuring, and information mapping and exchange for domain-specific tools (Hara: pg. 183, section 3 Enterprise with figure 2; and McQuary: pg. 258-260, Section 4 Defining a Collaborative Environment for Virtual Prototyping); and at least one domain user interface linking members of a domain in the enterprise with information in the database, wherein the information available to each

member is information necessary for the member to complete role and team based tasks, and wherein a domain user interface comprises access to at least one domain-specific tool, wherein each tool communicates information with the database via the information transformation service, wherein members have immediate access to data generated by any member of the enterprise, as authorized by the associative information; model defining database access and control (McQuay: pg. 257, right column, 3rd paragraph; and 258, left column, 1st paragraph).

Claim 2: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein each member communicates with the enterprise for collaboration using a standard web interface, the web interface being customized for programs, roles and teams (McQuary: pg. 258, left column last paragraph, right column first paragraph; and pg. 257 figure 2 (Technology Research Teams)).

Claim 3: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the information management service provides access control, security, search mechanisms, concurrency control, and versioning for data in the database (McQuay: pg. 260, right column, Application Interfaces).

Claim 4: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the CEE is built with a layered software architecture comprising a database management system (DBMS), a product data management system (PDM) augmenting

the DBMS with engineering specific information management capabilities, and the information transformation service utilizes an extensible infrastructure for interfacing engineering or management applications into the PDM environment (McQuay: pg. 260, Middleware and Applications).

Claim 5: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein data in the database have a corresponding program identifier, thereby allowing multiple programs within the enterprise to access a same CEE (Hara: pg. 182-183, Section 2 Architecture of CEE with figure 1; and McQuary: pg. 258, left column last paragraph, right column first paragraph; and pg. 257 figure 2 (Technology Research Teams))

Claim 6: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the CEE sends/receives information to users in a domain area, the domain area not being implemented in the collaboration environment (McQuay: pg. 261, Data Interface Management, lines 3-6).

Claim 7: A CEE as recited in claim 6(Hara: abstract and McQuay: abstract pg. 261, Data Interface Management, lines 3-6), wherein the database associative information model defines data for domain areas unintegrated (McQuary: pg. left column, section 5 Enabling Technologies for CEE Architecture, paragraphs 1 and 2 (User Systems Interface)) into the CEE by a domain user interface.

Claim 8: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the CEE is implemented using client/server technology, the database and information management services being on a server and domain user interfaces being on at least one client, and tools required by a domain being on one or both of the client and server (Hara: pg. 182, section 2, Architecture of CEE with figure 1; and pg. 187, section 6.3 Groupware).

Claim 9: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein a domain user interface is implemented for one or more domain areas in the group of proposal teams, program management, system engineers, software developers, hardware developers, system integrators, testing and integration engineers, support engineers, sub-contractors, teammates, suppliers and partners, users and customers (Hara: pg. 182, section 2, Architecture of CEE with figure 1; and pg. 187, section 6.3 Groupware; and McQuay: pg. 258, right column, 2nd paragraph; figure 2 with pg. 258, right column, 3rd paragraph).

Claim 10: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the database is object-oriented, facilitating reuse of standard elements among programs and organizations within the enterprise (McQuary: pg. 260, Application Interface and Middleware).

Claim 11: A CEE as recited in claim 1(Hara: abstract and McQuay: abstract), wherein the associative information model is developed from a life cycle perspective of implemented domain models, each domain model overlaying system views (functional, physical, operational) and system schedules (development, production, technology refreshment/insertion, support, platform availability) with the program infrastructure (development, production, support), and wherein the domain models define relationships and standard parameters dynamically modifiable for multiple programs, projects, or teams (McQuay: pg. 260, Middleware; and pg. 261, Access/Archive Management; and Hara: pg.187, section 6.3 Groupware).

Claim 12: A method for implementing and using a computer implemented collaborative engineering environment (Hara: abstract and McQuay: abstract), said method comprising: specifying and documenting an associative information model for an enterprise to capture physical, functional and environmental system requirements, wherein domain experts provide input into the specifying step for their particular domain (Hata: pg. 184, right column, lines 6-21); mapping the captured requirements into a database schema for a product data management system (PDM) (Hata: pg. 184-185, sections 4.3 and 4.4 with figures 5 and 6); generating an information transformation service between data to be stored in a database managed by the product data management system and tools used by domain specialists in performance of domain tasks, wherein information is stored in the database by various members of the enterprise based on the associative information model for the various member's domain

area (Hata: pg. 184, right column, lines 6-21, pg. 186, left column 2nd paragraph; and McQuay: pg. 259, right column, 3rd paragraph and pg. 260, left column, 1st paragraph); accessing data in the database by members of the enterprise, wherein the data accessed is part of a current baseline and the data retrieved is current for all members accessed the data (McQuay: pg. 259, right column, 3rd paragraph and pg. 260, left column, 1st paragraph); and performing domain tasks by a member of the enterprise using domain specific applications, wherein results from the domain specific application are properly formatted by the information transformation service and stored in the database managed by the PDM, the data being immediately accessible to other members of the enterprise (McQuay: pg. 259, right column, 3rd paragraph, lines 4-7).

Claim 13: A method as recited in claim 12 (Hata: pg. 184, right column, lines 6-21, pg. 186, left column 2nd paragraph; and McQuay: pg. 259, right column, 3rd paragraph and pg. 260, left column, 1st paragraph), wherein the CEE enables immediate information exchange in the access step for one or more domains in the group of proposal teams, program management, system engineers, software developers, hardware developers, system integrators, test and integration engineers, support engineers, teammates, partners, subcontractors, suppliers, users, and customers (Hata: abstract, 2nd paragraph, pg. 186, left column, 2nd paragraph; and McQuay: pg. 258, right column 3rd and 4th paragraphs with figure 2).

Claim 14: A method as recited in claim 13(Hata: pg. 184, right column, lines 6-21, pg. 186, left column 2nd paragraph; and McQuay: pg. 259, right column, 3rd paragraph and pg. 260, left column, 1st paragraph), wherein the access step uses a customizable standard web-based interface to provide members of the enterprise access to collaborative information (Hata: pg.186, left column, 3rd paragraph).

Claim 15: A method as recited in claim 14(Hata: pg. 184, right column, lines 6-21, pg. 186, left column 2nd paragraph; and McQuay: pg. 259, right column, 3rd paragraph and pg. 260, left column, 1st paragraph), wherein the standard web-based interface utilizes dynamic Hypertext Markup Language (HTML) generation for program customization (Hata: pg.186, left column, 3rd paragraph).

Claims 16: A computer implemented web-centric collaborative engineering environment (CEE) implemented using client/server technology for providing an inter-enterprise collaborative mechanism for organizations developing, integrating or maintaining complex system products, the CEE providing a federated architecture linking multiple systems and applications together to enable collaboration among enterprise members, comprising (Hara: abstract and McQuay: abstract): an object oriented database facilitating reuse of standard elements among programs and organizations within the enterprise the database residing on a server computer and defined by an associative information model, and augmented with engineering specific information management capabilities for providing a persistent understanding of product

and program information, assets and tools available in the enterprise, wherein the associative information model defines physical, functional and operational attributes of elements within at least one domain area in the enterprise and relationships among the elements include a corresponding program, role or team (McQuay: pg. 259, right column, 3rd paragraph with pg. 260-261, section 5 Enabling Technologies for CEE Architecture); an information management service residing on a server computer providing controlled access to the database for collaboration using an access control scheme defined by policies of the enterprise, the information management service using an object oriented database management system for access and control of the database and (Hata: pg. 183, section 3 Enterprise Model in CEE); an information management service utilizing an extensible infrastructure to interface engineering or management applications used in a domain into the CEE environment and acting as a bi-directional link, the information transformation service receiving, sending and formatting data between the database and members of the enterprise, wherein access to the data in the database is managed by the information management service, and wherein the information transformation service provides information structuring, and information mapping and exchange for domain-specific tools (Hata: pg. 185-186, section 5 Implementation); and at least one domain user interface residing on at least one client computer linking members of the enterprise with information in the database, wherein the information available to each member is information necessary for the member to complete role and team based tasks, and wherein a domain user interface allows a member access to at least one domain-specific tool, wherein each tool

communicates necessary information with the database via the information transformation service, and wherein an implemented domain user interface is customized for a domain area in the group of proposal teams, program management, system engineers, software developers, hardware developers, system integrators, testing and integration engineers, support engineers, sub-contractors, teammates, suppliers and partners, users and customers, wherein domain members have immediate access to data generated by any member of the enterprise, regardless of domain, as authorized by the associative information model defining database access and control and controlled by the information management service, and each member communicates with the enterprise for collaboration using a standard web interface, the web interface teeing customized for programs, roles and teams (McQuay: pg. 259, right column, 3rd paragraph, lines 4-7).

Claim 17: A CEE as recited in claim 16 (Hata: pg. 183, section 3 Enterprise Model in CEE; and McQuay: pg. 259, right column, 3rd paragraph with pg. 260-261, section 5 Enabling Technologies for CEE Architecture), wherein data in the database have a corresponding program identifier, thereby allowing multiple programs within the enterprise to access a same CEE (McQuay: pg. 259, right column, 3rd paragraph, lines 4-14).

Claim 18: A CEE as recited in claim 16(Hata: pg. 183, section 3 Enterprise Model in CEE; and McQuay: pg. 259, right column, 3rd paragraph with pg. 260-261, section 5

Enabling Technologies for CEE Architecture), wherein the CEE sends/receives information to users in a domain area, the domain area not being implemented in the collaboration environment (Hata: figures 1 and 2 with McQuay: pg. 259, right column, 3rd paragraph).

Claim 19: A CEE as recited in claim 16(Hata: pg. 183, section 3 Enterprise Model in CEE; and McQuay: pg. 259, right column, 3rd paragraph with pg. 260-261, section 5 Enabling Technologies for CEE Architecture), wherein the database associative information model defines data for domain areas unintegrated into the CEE by a domain user interface (McQuay: pg. 261, Data Interface Management, lines 3-6).

Claim 20: A CEE as recited in claim 16(Hata: pg. 183, section 3 Enterprise Model in CEE; and McQuay: pg. 259, right column, 3rd paragraph with pg. 260-261, section 5 Enabling Technologies for CEE Architecture), wherein the information transformation service performs some tasks, on the server and some tasks on at least one client (Hata: figures 1 and 2 with McQuay: pg. 259, right column, 3rd paragraph).

Claim 21: A CEE as recited in claim 16(Hata: figures 1 and 2 with McQuay: pg. 259, right column, 3rd paragraph), wherein the associative information model is developed from a life cycle perspective of implemented domains models, each domain model overlaying system views and system schedules with the program infrastructure for

development, production or support, and wherein the domain models define relationships and standard parameters dynamically modifiable for multiple programs, projects, or teams(Hata: figures 1 and 2 with McQuay: pg. 259, right column, 3rd paragraph and 260, 1st paragraph).

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is (703) 305-0365, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704. The fax number for the group is 703-872-9306.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

June 25, 2004

THS

KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER